

**Amendments to the Specification**

Please replace the title with the following new title:

VIRTUAL DATA STORE CREATION AND USE

Immediately following the title, please insert the following new section heading:

CROSS REFERENCE TO RELATED APPLICATIONS

Immediately following the new section heading above, please insert the following new paragraph:

[0001] This application is a continuation-in-part of U.S.  
Application No. 10/668,833 filed September 23, 2003.

Please replace the originally-filed paragraph [0001] with the following amended paragraph:

~~{0001}~~ [0001.1] The present invention relates to the field of data storage, and, in particular, to time-dependent data storage and recovery. More particularly, the invention relates to virtual data store creation and use.

Please replace the Abstract of the Disclosure with the following amended Abstract:

A method, apparatus, and system for accessing units of storage that depends at least in part on an address of the unit of storage and the time that data was written to the unit of storage. ~~By accessing units of storage in response to a time, prior images of a data store can be generated substantially instantaneously.~~ A virtual data store can be created that reflects the state of an original data store at a specified time, where the specified time is selected, for example, from a substantially continuous time interval.

Please replace the originally-filed paragraph [0012] with the following amended paragraph:

**[0012]** In general, in one aspect, the invention relates to a storage system including a plurality (e.g. two or more) units of storage (e.g., blocks or any other unit of digital storage that are uniquely addressable). Each unit of storage stores digital data. The unit of storage can be accessed by specifying an address and a time. The dimension of time is therefore part of the access – and is specified, for example, as part of the I/O command or via a side channel. The storage system can include one or more physical storage devices on which the digital data is stored. In one embodiment, the storage system includes at least ten physical storage devices. In another embodiment, the storage system includes at least 100 physical storage devices. The address can include a device identifier as well a location identifier. The device identifier can identify a logical storage device or a physical device. The time can specify that the digital data retrieved is current data from the address that is the most recent digital data written to the address at or before the time. In one embodiment, current data can be provided substantially instantaneously to a user in response to a user access request. In a version of this embodiment, the storage system includes a minimum storage capacity of two terabytes.

Please replace the originally-filed paragraph [0015] with the following amended paragraph:

**[0015]** In general, in another aspect, the invention relates to an apparatus for storing data that presents one or more virtual devices that are accessed by specifying an address and a time. The apparatus includes a storage appliance that interfaces with a computer. Additionally, one or more physical storage devices interface with the storage appliance. In one embodiment, ten or more physical storage devices interface with the

storage appliance. In another embodiment, 100 or more physical storage devices interface with the storage appliance. Each storage device is controlled by the storage appliance. The storage device presents the virtual devices by providing access to the data on the virtual devices based on an address and a time.

Immediately following paragraph [0015], please insert the following new paragraph:

**[0015.1]** In general, in still another aspect, the invention relates to a method of providing data by generating, substantially instantaneously, a virtual data store that reflects the state of an original data store at a specified time. A storage protocol request for data at a specified address in the virtual data store is received. Data stored in the original data store at the specified address at the specified time is transmitted in response to the storage protocol request. In one embodiment, the virtual data store is generated within one second of the receipt of a request to create the virtual data store.

Immediately following paragraph [0016], please insert the following new paragraph:

**[0016.1]** In general, in yet another aspect, the invention relates to a system for providing data. The system includes an original data store, a virtual data store that reflects a state of the original data store at a specified time selected from a substantially continuous time interval, and a virtual data store generator for generating the virtual data store. The system also includes a receiver for receiving a storage protocol request for data at a specified address in the virtual data store, and a transmitter for transmitting data stored in the original data store at the specified address at the specified time in response to the storage protocol request.

Please replace the originally-filed paragraph [0017] with the following amended paragraph:

[0017] In general, in another aspect, a method for providing data from a data store includes receiving a time specification. The specified time can be selected from a substantially continuous time interval, for example, the interval between a past time and the current time. In one embodiment, data is transmitted substantially instantaneously in response to a storage protocol request. In a version of this embodiment, the data is transmitted in less than 1 millisecond.

Immediately following paragraph [0019], please insert the following new paragraph:

[0019.1] The method may also include writing data to the virtual data store in response to a storage protocol request. In one embodiment, the storage protocol write request can be any variety of requests, for example, a standard write request (e.g., a SCSI write request, a Fibre Channel protocol request and the like) or a non-standard request.